

SECTION 3.16

Transboundary Justice

3.16 Transboundary Impacts

3.16.1 Introduction and Summary

This section describes transboundary impacts related to federal action in the LCR geographic subregion (see Table 2-1 in Section 1 for a description of the federal actions that are associated with the Proposed Project). The other geographic subregions are not discussed because either: (1) no federal action would occur in those subregions (e.g., SDCWA service area); or (2) no federal action would impact those subregions (IID water service area and AAC and Salton Sea).

NEPA directs federal agencies to analyze the reasonably foreseeable consequences of a project or action, regardless of where impacts might occur. Based on this, the CEQ has determined that NEPA requires agencies to include analysis of reasonably foreseeable transboundary impacts a project or action in their analysis of Proposed Projects in the US. The CEQ further states that such effects are best identified during the scoping stage, and should be analyzed to the best of the agency's ability using reasonably available information. Such analysis should be included in the environmental documentation for the Proposed Project (CEQ 1997).

Table 3.16-1 summarizes the transboundary impacts of the Proposed Project's and Alternatives' federal actions LCR geographic subregion.

TABLE 3.16-1
Summary of Transboundary Impacts¹

Proposed Project: 300 KAFY All Conservation Measures	Alternative 1: No Project	Alternative 2: 130 KAFY On-farm Irrigation System Improvements Only	Alternative 3: 230 KAFY All Conservation Measures	Alternative 4: 300 KAFY Following Only
LOWER COLORADO RIVER				
No impact.	Continuation of Baseline conditions.	No impact.	No impact.	No impact.
IID WATER SERVICE AREA AND AAC				
No impact.	Continuation of Baseline conditions.	No impact.	No impact.	No impact.
SDCWA WATER SERVICE AREA				
No impact.	Continuation of Baseline conditions.	No impact.	No impact.	No impact.

¹ Programmatic level analyses of USFWS' biological conservation measures in LCR subregion are not summarized in the table because no significance determinations have been made. Subsequent environmental documentation will be required if potential impacts are identified.

3.16.2 Regulatory Framework

3.16.2.1 Federal Regulations and Standards

As stated above in Section 3.16.1, the CEQ determined that NEPA requires an analysis of transboundary impacts that could result from proposed federal actions in the US to be considered in an EIS. The analysis should include reasonably foreseeable transboundary impacts.

3.16.3 Environmental Setting

3.16.3.1 Lower Colorado River

The following information is from the Draft IA EIS (Reclamation 2002):

... from Morelos Dam at the NIB (the California-Mexico border), the Colorado River flows southwesterly, roughly paralleling the Arizona-Mexico border. After passing the SIB, the River flows southwest and receives tributary flows from the Rio Hardy before draining into the Sea of Cortez.

The principal potential transboundary effect (with regard to water resources) relates to change in flows to Mexico. Flows in the reach of the Colorado River below Imperial Dam are primarily water to be delivered to Mexico in accordance with the 1944 Treaty. In December of each calendar year Mexico provides the United States with a monthly water order for the upcoming year. By Treaty, the order can be no less than 900 cfs and no more than 5,500 cfs during the months of January, February, October, November, and December; during other months the water order must be no less than 1,500 cfs and no more than 5,500 cfs. Daily water flows are not allowed to vary by more than 500 cfs.

Much of the water intended for Mexico is diverted into the All-American Canal and is later returned to the Colorado River bed at the Siphon Drop and Pilot Knob powerplants. Only a portion of the Mexico deliveries remains in the River, passing through Imperial Dam to Morelos Dam. Flows below Morelos Dam are generally excess flows that result from (1) operational activities upstream (e.g., canceled water orders in the United States, maintenance activities, etc.); (2) a Gila River flood event; or (3) flood control releases along the mainstem of the Colorado River.

Water released from Parker Dam under orders from irrigation districts in Imperial Valley, Coachella Valley, and the LCR Valley, normally takes up to three days to reach its point of diversion. Occasionally unforeseen events, such as localized precipitation, force the irrigation districts to cancel these water delivery orders after the water has been released at Parker Dam. Usually the water is diverted at Morelos Dam for use in Mexico; however, some of this water may flow past Morelos Dam. Gila River flood events are extremely rare. Only once has flow been recorded over 4,000 cfs at the Dome, Arizona, gaging station since 1941. In 1993 up to 27,500 cfs flowed past the Dome gaging station as a result of the 1993 Gila River flood (USGS and Reclamation 1999).

Excess flows to Mexico are almost entirely due to flood control releases originating at Hoover Dam. As discussed in Section 3.1, these flood control releases are dictated

by the flood control criteria established for Lake Mead and Hoover Dam and are dependent upon hydrologic conditions.

The waters of the Colorado River, once delivered to Mexico, are under the jurisdiction of Mexico. The 1944 US-Mexico Treaty contains no provisions requiring Mexico to provide water for environmental protection, nor any requirements relating to Mexico's use of that water. As flood flows arrive at Morelos Dam, Mexico has the discretion to divert more water than its water order or allow all the additional flows to move downstream of Morelos Dam. In the past Mexico has generally chosen to increase its diversion for use in agriculture for increased crop production and soil salinity improvement, or for diluting flows delivered at the SIB, municipal industrial uses, or to recharge groundwater aquifers in the Mexicali Valley.

Water Quality

Per Minute No. 242 of the US-Mexico Treaty, the United States must deliver water to Mexico with an average annual salinity concentration no greater than 115 ppm +/- 30 ppm over the average annual salinity concentration of the River at Imperial Dam. Thus, an increase in salinity at Imperial Dam directly translates to an allowable increase in salinity of water delivered to Mexico and an increase in salinity of water flowing past Morelos Dam. Average salinity at Imperial Dam for the period 1990 to 1997 varied from 702 to 797 mg/L, below the objective of 879 mg/L. Salinity is projected to increase at Imperial Dam to 980 mg/L by the year 2015 without additional controls (Reclamation 2002).

3.16.4 Impacts and Mitigation Measures

3.16.4.1 Methodology

Data for this section were obtained and summarized from Reclamation's Draft IA EIS (Reclamation 2002). Further information can be found in the IA EIS in Section 3.1.2.1. In addition, Reclamation's water quantity and quality modeling methodology is described in Section 3.1, Hydrology and Water Quality in this Final EIR/EIS.

Subregions Excluded From Impact Analysis. The direct transboundary effects of the Proposed Project are limited to federal actions and would occur along the LCR. The indirect effects of this Project are related to local actions and would be generated by non-federal entities in California. For this reason, an analysis of transboundary effects is not required for the indirect project effects that would occur within the SDCWA service area geographic subregion.

In addition, transboundary effects in the IID water service area and AAC and Salton Sea geographic subregion are not analyzed because implementation of the water conservation program/HCP, and the effects on the Salton Sea as a result of the Proposed Project, respectively, would not affect environmental resources in Mexico because no construction or operation of facilities will occur in Mexico. Also, water quantity/quality changes in the IID water service area and Salton Sea will not affect Mexico because the hydrological connection to Mexico is such that water flows from Mexico to the IID water service area rather from the IID water service area to Mexico.

3.16.4.2 Proposed Project

LOWER COLORADO RIVER

Water Conservation and Transfer

Changing the point of diversion from Imperial Dam to Parker Dam for water transferred to SDCWA and/or MWD would not change the quantity of Colorado River water that would flow to Mexico because the same amount of water would be taken off the River under the Proposed Project as compared to the Baseline – only the diversion point would change. Similarly, changing the point of diversion will not effect the salinity of flows to Mexico.

Biological Conservation Measures in USFWS' Biological Opinion

In addition, implementation of the biological conservation measures in USFWS' Biological Opinion would not adversely affect biological resources in Mexico because the conservation measures will only be constructed in the US portions of the River. Also, the conservation measures will result in beneficial effects biological resources along the River and (Reclamation 2002).

Impacts resulting from implementation of the biological conservation measures would be the same for Alternatives 2, 3, 4; therefore, they are not discussed under each Alternative.

3.16.4.3 Alternative 1: No Project

LOWER COLORADO RIVER

Water Conservation and Transfer

If the No Project Alternative were to occur, for the period 2002 to 2026, the probability of flood flows would vary from 20 to 25 percent. After 2030, the probability of flood flows decreases to 10 to 15 percent. The magnitude of flood flows varies from 0 to over 6 MAF, with large flood flows (over 250 KAF) anticipated approximately 20 percent of the time and flood flows over 1 MAF less than 15 percent of time (Reclamation 2002).

With regard to salinity, the average salinity at Imperial Dam for the period 1990 to 1999 varied from 655 to 803 mg/L, below the objective of 879 mg/L (DOI 2001). Salinity is projected to increase at Imperial Dam to 928 mg/L by the year 2015 without additional controls (DOI 1999). While this could correlate to an increase in salinity in water delivered to Mexico and water flowing past Morelos Dam, it is assumed that salinity control programs will continue to be implemented and objectives will be met in all reaches.

Biological Conservation Measures in USFWS' Biological Opinion

The biological conservation measures would not be implemented under the No Project Alternative because neither the IA nor the IOP would be implemented.

3.16.4.4 Alternative 2 (A2): Water Conservation and Transfer of Up To 130 KAFY to SDCWA (On-farm Irrigation System Improvements as Exclusive Conservation Method)

LOWER COLORADO RIVER

Water Conservation and Transfer

As described under the Proposed Project, changing the point of diversion from Imperial Dam to Parker Dam for water transferred to SDCWA and/or MWD would not change the quantity of Colorado River water that would flow to Mexico. This change will also not affect the salinity of the flow to Mexico.

3.16.4.5 Alternative 3 (A3): Water Conservation and Transfer of Up To 230 KAFY to SDCWA, CVWD, and/or MWD (All Conservation Measures)

LOWER COLORADO RIVER

Water Conservation and Transfer

As described under the Proposed Project, changing the point of diversion from Imperial Dam to Parker Dam for water transferred to SDCWA and/or MWD would not change the quantity of Colorado River water that would flow to Mexico. This change will also not affect the salinity of the flow to Mexico.

3.16.4.6 Alternative 4 (A4): Water Conservation and Transfer of Up To 300 KAFY to SDCWA, CVWD, and/or MWD (Following As Exclusive Conservation Method)

LOWER COLORADO RIVER

Water Conservation and Transfer

As described under the Proposed Project, changing the point of diversion from Imperial Dam to Parker Dam for water transferred to SDCWA and/or MWD would not change the quantity of Colorado River water that would flow to Mexico. This change will also not affect the salinity of the flow to Mexico.